

Mr. Ricky Smith
AM General Corporation
13200 McKinley Highway
Mishawaka, Indiana 46545

Re: 141-16221
Administrative Amendment to
Part 70 141-6023-00031

Dear Mr. Smith:

AM General Corporation was issued a Part 70 permit on February 25, 1999 for a military and commercial HUMMER production plant. A letter requesting a change was received on November 27, 2001. The installation of one repair station in addition to the existing two repair stations will result in decrease of the VOC emissions, therefore this change qualifies as an Administrative Amendment, pursuant to the provisions of 2-7-11, (see the attached spreadsheet). The permit is hereby administratively amended as follows (changes are bolded and deletions are struck-through for emphasis):

- (a) One (1) Final Repair Station rated at 1 unit per hour, with VOC emissions controlled by a new Carbon Adsorber.

The Part 70 Permit will be amended to incorporate the new emission units as follows:

- (1) Section A.2(3)(a)(4)(e) are amended as follows:
(e) Final and Spot Repair (Category #8) - This includes off-line spot and **three (3)** final repair **stations, each final repair station is controlled by a Carbon Adsorber.** The PM overspray from **these stations** ~~this system~~ will be controlled by dry filters.

Section D.5, Facility description table will also be amended to reflect the above change.

- (2) Section D.5. 7 Volatile Organic Compounds [326 IAC 8-1-2(a)]

- (1) no change

- (2) Pursuant to 326 IAC 8-2-9, the volatile organic compounds (VOC) content of the coatings applied **from at the three (3) Final Repair Stations** and Spot Repair ~~Booth~~ **Station** shall be limited as follows:

Type of Coating	VOC Emissions Limit (pounds per gallon of coatings less water)
Clear Coatings	4.3
Extreme Performance Coatings	3.5

Pursuant to 326 IAC 8-1-2(a), the Final and Spot Repair (Category # 8) shall achieve compliance with the above limits using **each a** Carbon Adsorption System for **the three (3) Final Repair Stations**. The operation of ~~the~~ **each** Carbon Adsorption

System shall also be considered the PSD BACT for the **three (3) Final Repair Stations operation.**

- (3) D.5.14 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
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- (a) No change
- (b) No change
- (c) Compliance stack tests for the ~~two (2)~~ **three (3) Final Repair Carbon Adsorbers controlling the three (3) Final Repair Stations** shall be made utilizing Method 25 to determine the maximum VOC concentration in the exhaust vent stream from the carbon adsorbers that will achieve a minimum removal efficiency of 85% required to comply with the limits in 326 IAC 8-2-9 and or other methods as approved by the Commissioner for capture efficiency. This test shall be repeated at least once every two and a half (2.5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Aida De Guzman, at (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
APD

cc: File - St. Joseph County
U.S. EPA, Region V
St. Joseph County Health Department
Northern Regional Office
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section - Karen Nowak
Administrative and Development
Technical Support and Modeling - Michele Boner

**PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY
and ST. JOSEPH LOCAL AGENCY**

**AM General Corporation
13200 McKinley Highway
Mishawaka, Indiana 46545**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) 40 CFR Part 70.6, IC 13-15 and IC 13-17..

Operation Permit No.: T141-6023-00031	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: February 25, 1999
1 st Administrative Amendment 141-12041, issued on April 20, 2000 2 nd Administrative Amendment 141-12212, issued on August 22, 2000 3 rd Administrative Amendment 141-12413, issued on August 4, 2000 4 th Administrative amendment 141-14597, issued on July 31, 2001 1 st Significant Permit Modification 141-15219, issued May 8, 2002	
5 th Administrative amendment 141-16221	Pages Affected: 6a, 35b, 35g, 35i,
Issued by:Original signed by Paul Dubenetzky Paul Dubenetzky, Chief Permit Branch Office of Air Quality	Issuance Date: August 20, 2002

of resins, pigments and water. The coated vehicle will then enter the ELPO/E-coat drying oven.

The VOC and HAPs emissions from the ELPO will be controlled by a Regenerative Thermal Oxidizer

- (2) Primer Surfacer/Guidecoat (Category #4) - Body sealers and/or fillers, prep operation which involves scuff sanding and manual wiping using solvent and tack cloths to remove particles, then to antichip booth, then to primer surfacer booth where the exterior will be painted and primer surfacer drying oven. The coating will be manually applied or will use automatic spray systems.

The VOC and HAPs emissions from the Primer Surfacer/Guidecoat automatic zones and from the curing oven will be controlled by a Regenerative Thermal Oxidizer. The PM overspray will be controlled by a wet scrubber.

- (c) Topcoat System (Category #5) - This system will consists of a preparation area, which involves minor scuffing and manual wiping using solvent and tack cloths to remove particles and/or otherwise prepare the surface for painting, basecoat spray booth, clearcoat spray booth, flash-off area and natural gas-fired drying oven, repair/polish. The coating will be applied to the vehicle parts using various types of spray applicators.

The VOC and HAPs emissions from the basecoat/clearcoat automatic spray application zones and from the curing oven of the topcoat system will be controlled by a Regenerative Thermal Oxidizer. The PM overspray will be controlled by a wet scrubber.

- (d) Vehicle Fluid Filling (Category #7) - Where gasoline, diesel, antifreeze, transmission fluid, windshield washer fluid, power steering fluid, brake fluid, engine oil, will be filled into the vehicles.
- (e) Final and Spot Repair (Category #8) - This includes off-line spot and three (3) final repair stations, each final repair station is controlled by a Carbon Adsorber. The PM overspray from these stations will be controlled by dry filters.
- (f) Assembly Final Line (Category #9) - After the paint shop, the painted vehicle components are routed to general assembly. General assembly consists of interior and exterior trim components and glass installation, chassis, wheel/tires, powertrain and final line assembly operations. The Vehicle start-up and roll test verifies if powertrain is installed correctly.
- (g) Miscellaneous Solvent Purge Usage and Cleanup (Category #10) - Solvents will be used in the body shop, paint shop, oven cleaning, general assembly areas and routine housekeeping. In the paint shop the purge material is reclaimed internally or externally to the spray application equipment.
- (i) Miscellaneous Sealers and Adhesives (Category #11) - Various sealers and adhesives will be used throughout the assembly process. Majority of these sealers and adhesives will be used in the paint shop. A special sealant will be used in the vehicle glass

- (c) Topcoat System (Category #5) - This system will consists of a preparation area, which involves minor scuffing and manual wiping using solvent and tack cloths to remove particles and/or otherwise prepare the surface for painting, basecoat spray booth, clearcoat spray booth, flash-off area and natural gas-fired drying oven, repair/polish. The coating will be applied to the vehicle parts using various types of spray applicators.

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- (i) Miscellaneous Sealers and Adhesives (Category #11) - Various sealers and adhesives will be used throughout the assembly process. Majority of these sealers and adhesives will be used in the paint shop. A special sealant will be used in the vehicle glass installation. These materials will be either air-dried or oven cured.

Extreme Performance Coatings	1.34	11.2
All Other Coatings and Coating Systems	1.01	8.4

Compliance with the equivalent emissions limits in this condition shall be determined according to the following equation:

$$E = \frac{L}{[(1-(L/D)) * (T)]}$$

Where: E = Equivalent emission limit in pounds of VOC per gallon coating solid deposited.

L = Actual VOC content in coating in pounds per gallon of coating, as applied.

D = Actual density of VOC in coating in pounds per gallon of VOC.

T = Actual measured transfer efficiency.

- (2) Pursuant to 326 IAC 8-2-9, the volatile organic compounds (VOC) content of the coatings applied from the three (3) Final Repair Stations and Spot Repair Station shall be limited as follows:

Type of Coating	VOC Emissions Limit (pounds per gallon of coatings less water)
Clear Coatings	4.3
Extreme Performance Coatings	3.5

Pursuant to 326 IAC 8-1-2(a), the Final and Spot Repair (Category # 8) shall achieve compliance with the above limits using each Carbon Adsorption System for the three (3) Final Repair Stations. The operation of each Carbon Adsorption System shall also be considered the PSD BACT for the three (3) Final Repair Stations.

D.5.8 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The PM overspray emissions from the Primer Surfacer/Guidecoat System, Topcoat System, Spot and Final Repair operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.5.9 New Source Performance Standards [326 IAC 12 and 40 CFR § 60.40c, Subpart Dc]

Pursuant to 326 IAC 12 and 40 CFR § 60.40c, Subpart Dc- Standards of Performance for Small

Industrial-Commercial-Institutional Steam Generating Units, the proposed two (2) 25 mmBtu/hr

- (c) The storage tank will dispense gasoline to fuel the manufactured vehicles for testing. AM General Corporation is proposing to install submerged fill pipes and pressure relief valves on the gasoline storage tank and will employ a vapor balancing system for gasoline tank truck unloading activities, to comply with 326 IAC 8-4-6.

D.5.12 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

D.5.13 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.5.14 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) Compliance stack tests shall be performed on the Regenerative Thermal Oxidizer (RTO) to determine the operating temperature that will achieve the following destruction efficiency and to determine the capture system efficiency for each coating system:

Facility	Destruction Efficiency
ELPO/E-Coat	95%
Primer Surfacer/Guidecoat System	95%
Topcoat System	95%

- (b) The Compliance stack tests for the Primer Surfacer/Guidecoat System and Topcoat System in (a) of this condition shall be made utilizing Method 25 for destruction efficiency, and or other methods as approved by the Commissioner for capture efficiency. This test shall be repeated at least once every two and a half (2.5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.
- (c) Compliance stack tests for the three (3) Carbon Adsorbers controlling the three (3) Final Repair Stations shall be made utilizing Method 25 to determine the maximum VOC concentration in the exhaust vent stream from the carbon adsorbers that will achieve a minimum removal efficiency of 85% required to comply with the limits in 326 IAC 8-2-9 and or other methods as approved by the Commissioner for capture efficiency. This test shall be repeated at least once every two and a half (2.5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance..
- (d) The compliance stack tests shall perform on the Primer Surfacer/Guidecoat, and

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Page 1 of 1 TSD App A

Company Name: AM General Corporation
Address City IN Zip: 12200 McKinley Highway, Mishawaka, IN 46545
Administrative Amendment No.: 141-16221
Pit ID: 141-00031
Reviewer: Aida De Guzman
Date Application Received: July 18, 2002

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Uncontrolled Pounds VOC per gallon of coating less water	Controlled Pounds of VOC per gallons Less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC Uncontrolled tons per year	Potential VOC Controlled tons per year	Uncontrolled Particulate Potential (ton/yr)	Controlled Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	Summation Coatings	Overall Control Efficiency
TWO FINAL REPAIR STATIONS as permitted in SSM 141-15219-00031																					
SECTION TWO: FINAL REPAIR (in the General Assembly area), VOC CONTROLLED BY CARBON ADSORBER																					
Basecoat (Sunset Orange Metallic)	8.5	57.65%	0.0%	57.7%	0.0%	37.00%	0.30000	0.825	4.90	0.74	4.90	1.21	29.11	5.31	0.80	0.98	0.02	13.24	75%	1.4406735	85%
Clearcoat (Urethane Clearcoat)	8.4	61.00%	0.0%	61.0%	0.0%	52.00%	0.30000	0.825	5.12	0.77	5.12	1.27	30.44	5.55	0.83	0.89	0.02	9.85	75%	1.52439	85%
Clearcoat Activator (Mixing Blend for Urethane)	8.4	78.00%	0.0%	78.0%	0.0%	52.40%	0.30000	0.825	6.55	0.98	6.55	1.62	38.92	7.10	1.07	0.50	0.01	12.50	75%	1.94922	85%
Coatings Weighted Average							0.90000		5.46	0.82										4.9142835	85%
Total PTE for 2 stations														12.65	1.90	1.87	0.04				
ADDITION OF ONE FINAL REPAIR STATION TO MAKE A TOTAL OF THREE FINAL REPAIR STATIONS																					
Basecoat (Sunset Orange Metallic)	8.5	57.65%	0.0%	57.7%	0.0%	37.00%	0.13209	3.000	4.90	0.74	4.90	3.37	46.60	8.50	1.28	1.60	0.03	13.26	75%	1.4406735	85%
Clearcoat (Urethane Clearcoat)	8.4	61.00%	0.0%	61.0%	0.0%	52.00%	0.13209	3.000	5.12	0.77	5.12	3.33	48.73	8.89	1.33	1.42	0.028	9.85	75%	1.52439	85%
Coatings Weighted Average							0.26418		11.22	1.68										2.9650635	85%

Total PTE for 3 stations

8.89	1.33	1.60	0.03
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1.68 < 3.5 limit in 326 IAC 8-2-9

METHODOLOGY

PTE = worst case coating + sum of all solvents

Only the Final Repair is controlled by the Carbon Adsorber with 100% capture and 85% VOC removal Efficiency.

Summation Coatings = Sum Coatings (Densitycoat * Wt % Org. * quantity of coatings, gal/unit) / ((1-vol % water * Densitycoat/density water)

Volume Weighted Average = Summation Coatings / Total coatings Used

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / ((1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hrs/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (lbs/gal) * ((1-Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used